with stable chronic renal failure, with levothyroxine replacement resulting in up to 50% improvement in renal function. It is important to detect, especially in the elderly, since hypothyroid symptoms may be masked in patients with known renal failure and the condition is easily treatable.[6,7]

REFERENCES

1 Jain S, Bhargava K, Sawlani KK, Daga MK, Gaiha M. Myoglobinuria and transient acute renal failure in a patient revealing hypothyroidism. *J Assoc Physicians India* 1999;**47**:444–6

2 Halverson PB, Kozin F, Ryan LM, Sulaiman AR. Rhabdomyolysis and renal failure in hypothyroidism. *Ann Intern Med* 1979;**91**:57–8

3 Sekine N, Yamamoto M, Michikawa M, *et al*. Rhabdomyolysis and acute renal failure in a patient with hypothyroidism. *Intern Med* 1993;**32**:269–71

4 O'Brien T, Katz K, Hodge D, Nguyen TT, Kottke BA, Hay ID. The effect of the treatment of hypothyroidism and hyperthyroidism on plasma lipids and apolipoproteins AI, AII and E. *Clin Endocrinol* 1997;**46**:17–20

5 Benvenga S, Rodolico C, Trimarchi F, Toscano A, Vita G. Endocrine evaluation for muscle pain. *J R Soc Med* 2001;**94**:405–7

6 Hlad CJ, Bricker NS. Renal function and I^{131} clearance in hyperthyroidism and myxedema. *J Clin Endocrinol Metab* 1956;**14**:1539–50

7 Al-Fifi S, Girardin C, Sharma A, Rodd C. Moderate renal failure in association with prolonged acquired hypothyroidism in children. *Acta Paediatr* 1999;**88**:715–17

Unusual presentations of acute lymphoid malignancy in children

Reuben Antony MRCP
Derek Roebuck FRCR MRCPCH[1]
Ian M Hann FRCPCH FRCPath

J R Soc Med 2004;**97**:125–127

Acute paraplegia in childhood requires immediate diagnostic evaluation and treatment. Lymphoblastic leukaemia/lymphoma is a cause easily missed if signs of bone marrow dysfunction are absent.

Department of Haematology and Oncology and [1]Department of Radiology, Great Ormond Street Hospital for Children, London WC1N 5JH, UK

Correspondence to: Dr R Antony, c/o Dr S Arun, 79 Bloomsbury Close, Western Gardens, London W5 3SF, UK

E-mail: reubena@hotmail.com

CASE HISTORIES

Case 1

A 4-year-old boy complained of knee pain and had increasing difficulty with weight-bearing for five weeks. A week before admission he stopped walking completely and the pain spread to involve most of his bones, especially his spine and ribs. He also described numbness over his thighs and strained to pass urine and stool. At this time an antero-posterior X-ray of his spine showed no abnormality. Intermittent spinal traction for five days was of no benefit, and on the day before admission an MRI of his spine was done. This showed a paraspinal mass from T2 to T8 passing through the intervertebral foramina into the spinal epidural space and compressing the cord (Figure 1). The radiological differential diagnosis was neuroblastoma or non-Hodgkin lymphoma. After starting dexamethasone for tumour-related cord compression he was transferred to our centre for further management. The relevant physical findings were hepatomegaly, decreased power and sensation in the lower limbs, and bilateral calf wasting more pronounced on the left. Though his full blood count was normal, leukaemic blast cells were seen on a peripheral blood film. The bone marrow contained 61% blast cells and immunophenotyping was positive for CD10, CD19 and CD79a. Acute lymphoblastic leukaemia was diagnosed and he was started on treatment according to the UK ALL 2003 protocol. Within a week his lower limb function was improving.

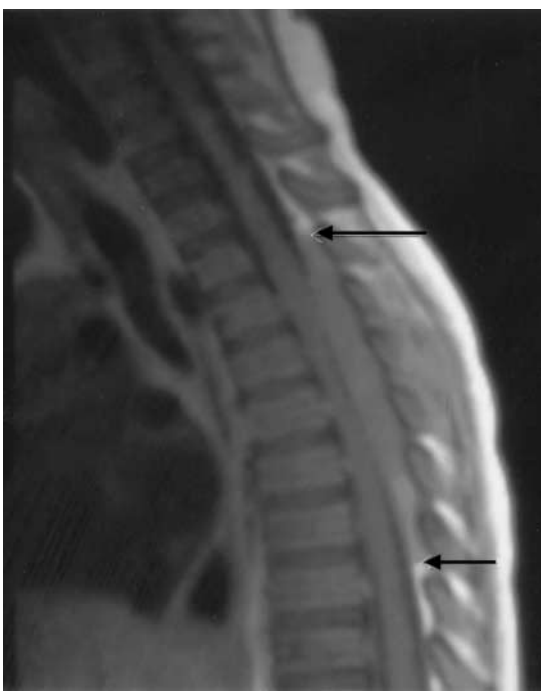

Figure 1 **Sagittal T1 weighted MR image showing epidural mass in the thoracic spinal canal (between arrows)**

Case 2

A girl of 4 had experienced fourteen days of progressive lower limb weakness following two episodes of upper respiratory tract infection. The initial clinical diagnosis was Guillain–Barré syndrome and she was treated with intravenous immunoglobulin. An electromyogram three days after admission was normal and there was no response to immunoglobulin. MRI of her brain and spine then showed a mass from T2 to T10 compressing the spinal cord (Figure 2) and she was started on dexamethasone. On transfer to our centre she had flaccid paralysis of both lower limbs and absent deep tendon reflexes, but bladder and bowel function and lower limb sensation were intact. The white cell count was not raised and no blasts were seen on a peripheral smear. The initial diagnosis was neuroblastoma and she was treated with carboplatin, vincristine and etoposide. On histological examination the cellular elements of the mass were strongly positive for CD79a, TDT and CD10 and the diagnosis was revised to pre B cell lymphoblastic lymphoma. Bone marrow was normal. She was started on treatment according to the MRC ALL 97 protocol and a repeat MRI 2 days later showed almost complete disappearance of the tumour mass (Figure 2b). After intensive physiotherapy for eight months she was walking with support.

COMMENT

The common causes of acute lower limb paraplegia in childhood are spinal cord tumours, epidural abscess, haematoma and transverse myelitis. Guillain–Barré syndrome can present as an ascending lower limb paralysis. Back pain in children is unusual and should always be investigated to rule out serious underlying illness. In both the children we are reporting, neurological symptoms progressed considerably before appropriate treatment was started. While a neurological examination can help determine the level of involvement of the spinal cord, imaging with MRI is necessary both for diagnosis and for planning of further investigations and treatment. Leukaemic/lymphomatous masses spread via lymphatics and through intervertebral foramina and cause cord compression before bone destruction.[1] So while plain X-rays are useful in detecting bony involvement in primary or metastatic solid tumours they can be falsely reassuring in lymphoid malignancies.[2] In the absence of bone marrow or peripheral blood involvement a biopsy of the spinal mass may be necessary. Examination of cerebrospinal fluid may help with the diagnosis but a lumbar puncture may not be safe and a neurosurgical opinion should first be sought. Acute lymphoid malignancies are common in childhood. Patients with acute lymphoblastic leukaemia/lymphoma usually present with infections or signs of bone marrow dysfunction such as anaemia and bruising. An initial presentation with lower limb weakness is exceedingly rare. In one series of 1412 children with acute lymphocytic leukaemia only 5 (0.35%) presented with a spinal mass.[2] Early chemotherapy and physical rehabilitation offer the best chance of cure and functional recovery.

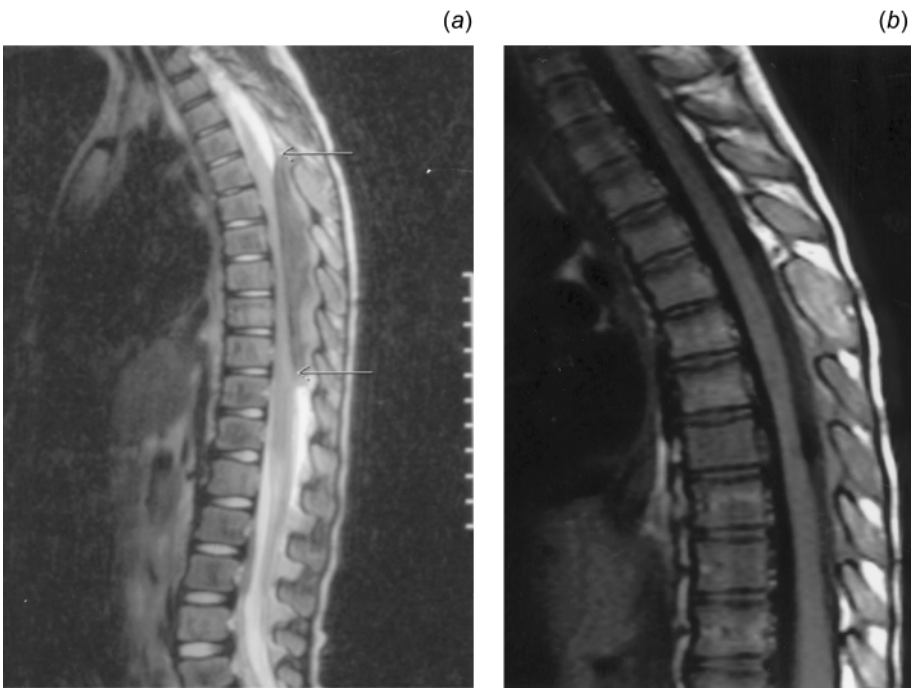

Figure 2 **Sagittal T2 weighted MR images in case 2.** (a) Image at diagnosis shows a large epidural mass (between arrows) causing severe compression of the thoracic spinal cord. There are patchy signal changes in the vertebral bodies, presumably related to leukaemic marrow infiltration. (b) 2 days after diagnosis, image shows substantial resolution of the mass but persistent changes in the vertebral bodies

Acknowledgment We thank the Department of Medical Illustration, Great Ormond Street Hospital for Children, for their help.

REFERENCES

1 Ch'ien LT, Kalwinsky DK, Peterson G, *et al*. Metastatic epidural tumors in children. *Med Pediatr Oncol* 1982;**10**:455–62

2 Pui C-H, Dahl GV, Hustu HO, Murphy SB. Epidural spinal cord compression as the initial finding in childhood acute leukemia and non Hodgkin lymphoma. *J Pediatr* 1985;**106**:788–92

Retrograde intussusception of sigmoid colon

T Joseph FRCS A L Desai FRCS

J R Soc Med 2004;**97**:127–128

Most retrograde intussusceptions occur in the sigmoid colon, perhaps initiated by antiperistalsis.

CASE HISTORY

A woman aged 57 was seen twelve hours after the sudden onset of lower abdominal pain. The pain had become a constant ache in the left lower quadrant. She had been nauseated and constipated for a day but had been passing flatus. On examination she was mildly tender in the left iliac fossa, where a poorly defined mass was felt. Overnight, some distension of the abdomen developed. A plain abdominal film showed air-filled large bowel to the level of the splenic flexure and with little large bowel shadow distal to this. An ultrasound scan suggested the possibility of intussusception of the left colon but the presence of air filled loops of bowel precluded confident interpretation. A CT scan confirmed reverse intussusception of the sigmoid into the descending colon (Figures 1 and 2). A Gastrografin enema was thought unnecessary in view of this evidence. At laparotomy the sigmoid colon was found to be invaginating backwards to the level of the splenic flexure. The intussusception was partly reduced and a left hemicolectomy was performed with primary anastomosis. On opening of the resected colon, there was some necrosis and oedema of the bowel wall, with a sessile 2 cm × 2 cm × 1.5 cm polyp at the apex of the intussusceptum. Histological examination showed this to be a tubulovillous adenoma with moderate dysplasia.

Wexham Park Hospital, Slough, UK

Correspondence to: Mr T Joseph, 145 Belgrave Road, Wyken, Coventry CV2 5BJ, UK.

E-mail: TJo5366012@aol.com

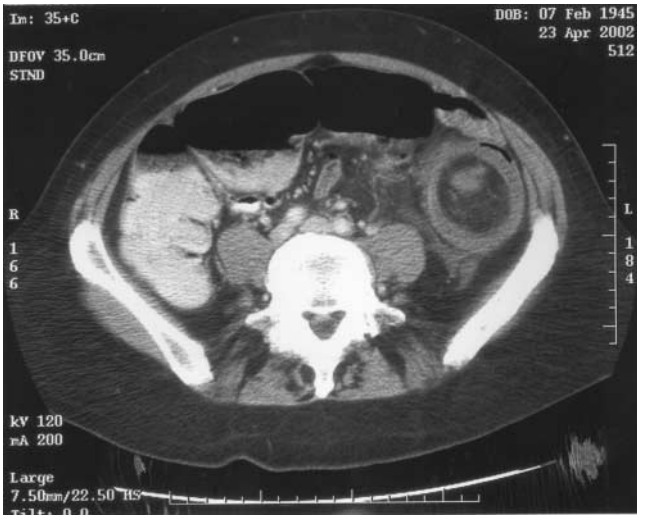

Figure 1 **CT scan showing the intussuscepted sigmoid colon in descending colon.** Note 'target sign' seen on ultrasound scan similar to that seen on an ultrasound scan in this condition (Ref 6)

COMMENT

In adults, intussusceptions account for up to 5% of cases of bowel obstruction, and 90% are secondary to a definable lesion. In children, by contrast, 80–90% are without an identifiable cause.[1] Reviewing the published work from 1667 to 1955, Akehurst[2] found 103 cases of retrograde intussusception, most of them combined with antegrade intussusception. There were 12 cases of uncombined

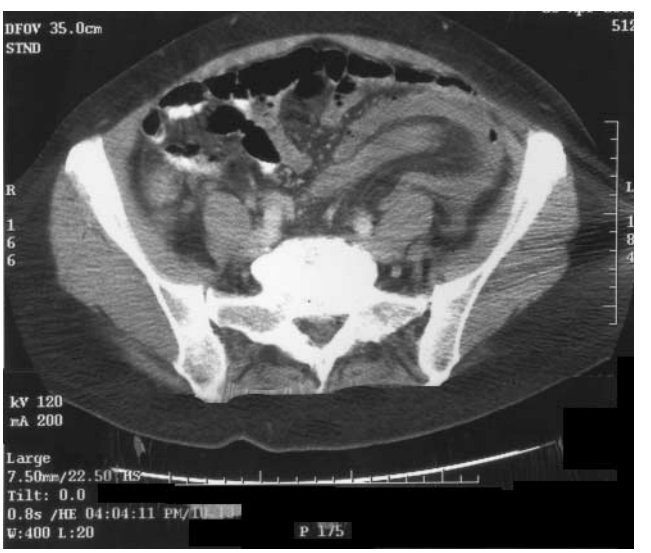

Figure 2 **CT scan showing retrograde nature of sigmoid intussusception**